

What is claimed is:

1. A hinge for use with an electronic device, the hinge comprising:  
a cam comprising a cam surface and at least two stop surfaces formed therein;  
a cam follower comprising at least one cam following tip arranged to contact the cam surface;  
a resilient member arranged to provide a force to urge the cam and the cam follower toward each other, thereby maintaining the contact between the cam follower and the cam;  
wherein one of the cam and the cam follower is rotatable about an axis, while the other is substantially non-rotatable about the axis;  
wherein the cam surface comprises an area configured such that contacting the area by the at least one cam following tip causes a spontaneous rotational movement of the rotatable member about the axis in a rotational direction; and  
wherein each stop surface is configured such that contacting the stop surface by the at least one cam following tip causes to stop the spontaneous rotational movement.
2. The hinge of Claim 1, further comprising a housing configured to at least partially enclose the cam, the cam follower and the resilient member.
3. The hinge of Claim 2, wherein the rotational member is rotatable relative to the housing.
4. The hinge of Claim 2, wherein the rotational member has a part protruding outside the housing, and wherein the protruding part is configured to be engaged with a piece of an electronic device.
5. The hinge of Claim 1, further comprising a housing engaged with the non-rotatable member.
6. The hinge of Claim 1, wherein the cam is the non-rotatable member, and wherein the cam follower is the rotatable member.
7. The hinge of Claim 1, wherein the cam surface is waving with reference to an imaginary plane perpendicular to the axis.

8. The hinge of Claim 1, wherein the at least one cam following tip is configured to move on the cam surface along a substantially closed path.

9. The hinge of Claim 1, wherein the cam surface comprises an area that does not cause a spontaneous rotational movement of the rotatable member.

10. The hinge of Claim 1, wherein the spontaneous rotational movement is for a rotational angle about the axis at least about 2°.

11. The hinge of Claim 1, wherein the spontaneous rotational movement is for a rotational angle about the axis at least about 5°.

12. The hinge of Claim 1, wherein the spontaneous rotational movement is for a rotational angle about the axis at least about 10°.

13. The hinge of Claim 1, wherein the cam surface and the at least one cam following tip are arranged such that a rotational movement of the rotatable member about the axis causes a linear movement of the non-rotatable member along the axis.

14. The hinge of Claim 1, wherein the cam surface is configured such that a forced rotational movement of the rotatable member about the axis beyond a predetermined point causes a spontaneous rotational movement of the rotatable member about the axis in the same rotational direction.

15. The hinge of Claim 1, wherein the cam surface is configured such that a forced rotational movement of the rotatable member about the axis in a rotational direction up to less than a predetermined point causes a spontaneous rotational movement of the rotatable member about the axis in a rotational direction opposite to the forced rotational movement.

16. The hinge of Claim 1, wherein the cam surface comprises at least two sloped surfaces, which are sloped with reference to one another, wherein two of the at least two sloped surfaces meet and form at least one valley or peak along where the two sloped surfaces meet.

17. The hinge of Claim 16, wherein the at least one valley constitutes one of the at least two stop surfaces.

18. The hinge of Claim 16, wherein one of the at least two stop surfaces is located on an area of the at least two sloped surfaces, and wherein the area does not constitute the at least one valley or peak.

19. The hinge of Claim 1, wherein one of the at least two stop surfaces comprises a groove formed in the cam surface.
20. The hinge of Claim 1, wherein one of the at least two stop surfaces comprises a bump formed on the cam surface.
21. The hinge of Claim 1, wherein one of the at least two stop surfaces is configured to receive the at least one cam following tip.
22. The hinge of Claim 1, wherein each stop surface is further configured to substantially maintain relative positions of the cam and the cam follower.
23. The hinge of Claim 1, wherein each stop surface is formed along a trajectory of at least one cam following tip.
24. The hinge of Claim 1, wherein each stop surface is configured to substantially block movement of the at least one cam following tip along a path thereof on the cam surface.
25. The hinge of Claim 1, wherein each stop surface comprises a threshold over which the at least one cam following tip is configured to move.
26. The hinge of Claim 1, wherein the cam and the cam follower are configured such that the at least one cam following tip moves along a substantially closed path as the rotatable member rotates 360° about the axis.
27. The hinge of Claim 1, wherein the cam surface comprises at least one peak along a closed path about the axis.
28. The hinge of Claim 1, wherein the cam surface comprises a closed contour surface around the axis, and wherein the closed contour surface comprises at least two uphill and at least two downhill.
29. The hinge of Claim 1, further comprising a guide hole and a guide rod, wherein the guide hole is formed along the axis in either of the cam and the cam follower, wherein the guide rod extends from the other of the cam and the cam follower, and wherein the guide rod is configured to be inserted in the guide hole.
30. The hinge of Claim 1, wherein the cam follower comprises two protrusions positioned substantially diametrically with respect to the axis and extending toward the cam surface, and wherein a distal end of each protrusion constitutes the at least one cam following tip.

31. The hinge of Claim 1, wherein each cam following tip is configured such that a point of the contact of the cam following tip with the cam surface moves as the cam and the cam follower moves relative to each other.

32. The hinge of Claim 1, further comprising an adapter configured to engaged with the rotatable member and further configured to engage with an electronic device.

33. A method of operating a hinge of Claim 1,  
rotating the rotatable member in a first rotational direction about the axis up to less than a predetermined angle; and

allowing the rotatable member to spontaneously rotate in a second rotational direction opposite to the first rotational direction about the axis.

34. A method of operating a hinge of Claim 1,  
rotating the rotatable member in a first rotational direction about the axis beyond a first predetermined angle; and

allowing the rotatable member to spontaneously rotate in the first rotational direction about the axis to a first stop angle.

35. The method of Claim 34, further comprising:  
rotating the rotatable member in the first rotational direction about the axis from the first stop angle up to less than a second predetermined angle; and

allowing the rotatable member to spontaneously rotate in a second rotational direction opposite to the first rotational direction about the axis back to the first stop angle.

36. The method of Claim 34, further comprising:  
rotating the rotatable member in the first rotational direction about the axis from the first stop angle beyond a second predetermined angle;

allowing the rotatable member to spontaneously rotate in the first rotational direction about the axis to a second stop angle.

37. A hinged electronic device comprising;  
at least two body pieces comprising first and second body pieces;  
the hinge of Claim 1, connecting the first and second body pieces;  
the first body piece being connected with the rotatable member;  
the second body piece being connected with the non-rotatable member;

wherein the first and second body pieces are configured to rotate about the axis relative to each other.

38. The electronic device of Claim 37, wherein the connection between the first body piece and the rotatable member is such that the first body piece is substantially not rotatable with reference to the rotatable member about the axis.

39. The electronic device of Claim 39, further comprising an adapter via which the first body piece and the rotatable member are connected.

40. The electronic device of Claim 37, wherein the connection between the second body piece and the non-rotatable member is such that the second body piece is substantially not rotatable with reference to the non-rotatable member about the axis, while allowing a linear movement of the non-rotatable member with reference to the non-rotatable member along the axis.

41. The electronic device of Claim 37, further comprising a housing configured to at least partially enclose the cam, the cam follower and the resilient member, wherein the second body piece and the non-rotatable member are connected via the housing.

42. The electronic device of Claim 41, wherein the second body piece defines a hollow for receiving the housing.

43. The electronic device of Claim 37, wherein at least one of the first and second body pieces comprises a display panel.

44. The electronic device of Claim 37, wherein at least one of the first and second body pieces comprises a keypad for inputting characters or numbers.

45. The electronic device of Claim 37, further comprising an additional hinge, wherein the first and second body pieces are connected with each other via the two hinges.

46. The electronic device of Claim 37, wherein the first and second body pieces are configured to rotate with each other about the axis between an open configuration and a closed configuration, and wherein in either of the open and closed configurations, the first and second body pieces can rotate with each other about the axis in one rotational direction only.

47. The electronic device of Claim 37, wherein the first and second body pieces are configured to spontaneously rotate relative to the other in a rotational direction about the axis if the first and second body pieces are positioned between the open and closed

configurations and if the at least one cam following tip is contacting the area of the cam surface.

48. A method of operating the hinged electronic device of Claim 37, the method comprising:

rotating the first body piece in a rotational direction about the axis relative to the second body piece beyond a predetermined point; and

allowing a spontaneous rotational movement of the first body piece relative to the second body piece in the same rotational direction about the axis.

49. The method of Claim 48, wherein the spontaneous rotational movement is stopped when the at least one cam following tip contacts one of the at least two stop surfaces.

50. A method of operating the hinged electronic device of Claim 37, the method comprising rotating the first body piece in a rotational direction about the axis relative to the second body piece until the at least one cam following tip contacts one of the at least two stop surfaces.

51. A method of operating the hinged electronic device of Claim 37, the method comprising:

rotating the first body piece in a rotational direction about the axis relative to the second body piece up to less than a predetermined point; and

allowing a spontaneous rotational movement of the first body piece relative to the second body piece in the opposite rotational direction about the axis.

52. A hinge for use with an electronic device, the hinge comprising:

a cam comprising a cam surface;

a cam follower comprising at least one cam following tip arranged to contact the cam surface;

a resilient member arranged to provide a force to urge the cam and the cam follower toward each other, thereby maintaining the contact between the cam follower and the cam;

wherein one of the cam and the cam follower is rotatable about an axis, while the other is substantially non-rotatable about the axis; and

wherein the cam surface comprising:

means for causing the cam to spontaneously move relative to the cam follower with the force by the resilient member, and

means for stopping the spontaneous movement of the cam relative to the cam follower while allowing a further movement of the cam relative to the cam follower upon application of a sufficient external force.